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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,774	09/26/2001	Jeffrey W. Nichols	EPH / 33	1743

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Gregory J. Lunn
Wood, Herron & Evans, L.L.P.
2700 Carew Tower
441 Vine Street
Cincinnati, OH 45202-2917

EXAMINER
THOMPSON, KENNETH L

ART UNIT	PAPER NUMBER
3679	

DATE MAILED: 10/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/963,774	Applicant(s) NICHOLS, JEFFREY W.	
	Examiner Kenn Thompson	Art Unit 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-8,10-17 and 19-29* is/are rejected.

7)☒ Claim(s) *2,9,11 and 14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 September 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-8,10, 12-17 and 19-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Andra, U.S. 5,024,120.

Regarding claim 1, Andra discloses in figures 1-2 a torsional vibration damper for a rotatable shaft. Andra discloses an annular inertia ring (2). Andra discloses an elastomeric layer (3) disposed radially inward from the inertia ring. Andra discloses a polymer body (5) disposed radially inward from the elastomeric layer. Andra discloses an insert (1) disposed radially inward from the polymer body, the insert formed of a structurally rigid material and mountable to the rotatable shaft. Andra discloses the insert including a support flange (A,B) projecting radially outward into the polymer body wherein an axial force applied to the front support flange is preferentially transferred to the insert such that the polymer body remains substantially stress-free.

As to claims 3 and 12, Andra discloses the polymer body includes a first annular surface (7) and a second annular surface (9) opposite the first annular surface. Andra discloses the support flanges having a seating surface (8) that is substantially coextensive with one of the first and the second surfaces of the polymer body.

As to claims 4 and 13, Andra discloses the seating surface is free of polymer material forming the polymer body.

As to claims 5 and 14, Andra discloses the seating surface is at least partially encapsulated (at A and B) in the polymer material forming the polymer body.

As to claims 8, 17 and 29, Andra discloses the structurally rigid material is metal (col. 3, lines 60-62).

Regarding claim 10, Andra discloses an annular inertia ring (20). Andra discloses an elastomeric layer (3) disposed radially inward from the inertia ring. Andra discloses a polymer body (5) disposed radially inward from the elastomeric layer. Andra discloses an insert (1) disposed radially inward from the polymer body, the insert formed of a structurally rigid material (col. 3, lines 60-62) and mountable to the rotatable shaft (col. 3, lines 23-29). Andra discloses the insert including a support flange (A,B) projecting radially outward into the polymer body. Andra discloses adjacent ones of the plurality of support flanges having an angular spacing about a circumference (1a) of the insert. Andra discloses an axial force applied to at least some of the plurality of support flanges is preferentially transferred to the insert such that the polymer body remains substantially stress-free.

Regarding claim 19, Andra discloses an annular inertia ring (20). Andra discloses an elastomeric layer (3) disposed radially inward from the inertia ring. Andra discloses a polymer body (5) disposed radially inward from the elastomeric layer. Andra discloses an insert (1) positioned radially inward of the polymer body. Andra discloses the insert formed of a structurally rigid material and having a plurality of protrusions providing

torque locking structure that mechanically interlocks the polymer body with the insert so that the polymer body resist rotation relative to the insert (col. 2, lines 47-59).

As to claim 20, Andra discloses the structurally rigid material is metal and the protrusions are integrally formed with the insert.

As to claim 23, Andra discloses the insert has a first longitudinal axis (X) and the plurality of protrusions are splines (A,B), each of the splines having a second longitudinal axis aligned generally parallel to the first longitudinal axis.

Regarding claim 24, Andra discloses an annular inertia ring (20). Andra discloses an elastomeric layer (3) disposed radially inward from the inertia ring. Andra discloses a polymer body (5) disposed radially inward from the elastomeric layer and having an inner peripheral surface. Andra discloses the polymer body being formed of a polyamide (8,9) composite having a reinforcing filler of a relatively rigid material (4). Andra discloses an insert (1) disposed radially inward from the polymer body, the insert being formed of a first relatively rigid material and having an outer peripheral surface being generally coextensive with the inner peripheral surface of the polymer body.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6,7,15,16,25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andra, U.S. 5,024,120 in view of Patterson, U.S. 5,112,282.

As to claims 6 and 15, Andra discloses the polymer. Andra does not disclose the polymer is a glass reinforced polyamide. Patterson teaches use of a polymer that is a glass reinforced polyamide to improve tensile strength (col. 4, lines 28-51). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the polymer disclosed by Andra to be a glass reinforced polyamide as taught by Patterson to improve tensile strength. Applicant should note that it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

As to claims 7, 16 and 28, Andra discloses the polymer. Andra does not disclose the polymer is mechanically stable at a temperature of at least about 230 degrees F. Patterson teaches use of a polymer that is mechanically stable at a temperature of at least about 230 degrees F to improve performance characteristics at high temperatures (col. 3, lines 41-45). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the polymer disclosed by Andra to be mechanically stable at a temperature of at least about 230 degrees F as taught by Patterson to improve performance characteristics at high temperatures. Applicant should note that it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

As to claim 25, Patterson teaches use of a reinforcing filler that is relatively rigid material that is glass (col. 4, lines 52-65).

As to claim 26, Patterson teaches use of a polyamide composite including a plurality of glass fibers (col. 4, line 63 – col. 5, line 2).

As to claim 27, Patterson teaches use of a polyamide composite based on a nylon-copolymer (col. 4, lines 63-65).

Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andra, U.S. 5,024,120 in view of Fukahori et al., U.S. 4,899,323.

As to claims 21 and 22, Andra discloses the protrusions are continuous wave formations. Andra does not disclose the protrusions are cylindrical bosses nor rectangular tabs. Fukahori et al. teaches in figures 8-9 use of protrusions (3) that are cylindrical bosses or rectangular tabs to increase bonding between the hard plates and the rubber covering (col. 15, lines 28-35). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the protrusions disclosed by Andra to be cylindrical bosses or rectangular tabs as taught by Fukahori et al. to increase bonding between the hard plates and the rubber covering. Applicant should note that a change in the shape of a prior art device is a design consideration within the skill of the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Allowable Subject Matter

Claim 2, 9, 11, 18 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose or suggest all the claimed subject matter including the polymer body includes an annular wall having a first annular surface, a second annular surface opposite the first annular surface and a service port extending through the annular wall between the first and second surfaces, the service port being positioned radially outward from the support flange.

The prior art does not disclose or suggest the annular inertia ring includes a circumferential flange that extends radially inward into the elastomeric layer.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Geislinger, U.S. 6,293,871 and McLean, U.S. 3,495,459 disclose a similar damper.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenn Thompson whose telephone number is 703 306-5760. The examiner can normally be reached on 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on 703 308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are 703 305-7687 for regular communications and 703 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-2168.

KT
September 26, 2002

Lynne H. Browne
Supervisory Patent Examiner
Group 3600